

Lincoln Water System
Lincoln, Nebraska

WATER MANAGEMENT PLAN

Executive Order No. 047122

May 1994
(Revised 4/00, 5/01, 3/12/03)

WATER MANAGEMENT PLAN

Guidelines

INTRODUCTION

The Director of Public Works and Utilities, or designated representative, shall keep the Mayor informed of the conditions of water supply, system usage and reservoir levels. When the Director of Public Works and Utilities deems it appropriate, using best professional judgment and considering weather conditions, weather forecasts, river flow conditions and water system operations, recommendations may be made to the Mayor for either initial implementation of the Water Management Plan or an acceleration to an appropriate Phase in the Plan.

The Plan is intended to supplement activities of the Mayor's Water Conservation Task Force.

SYSTEM CAPABILITIES

The purpose of this Plan is to:

1. Keep water use within pumping capacity and delivery capability, based on recommendations of the Lincoln Water System.
2. Define procedures to be used when the above criteria cannot be met.
3. Familiarize citizens, businesses and industry with procedures which may be implemented when voluntary or mandatory water restrictions are required.

A. SUMMER WATER USE CURTAILMENT PLAN

PHASE 1 - VOLUNTARY CONSERVATION

1. Implementation.

The Mayor appeals to the citizens to voluntarily practice water conservation measures in support of the activities of the Mayor's Water Conservation Task Force.

2. Public and City Involvement.

Lincoln Water System customers are asked to voluntarily reduce water usage by practicing water conservation measures.

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3. Termination.

Phase 1 shall remain in effect until conditions indicate a more restrictive Phase is necessary, or until rescinded by the Mayor.

PHASE 2 - VOLUNTARY DESIGNATED DAY SCHEDULE FOR OUTDOOR WATERING

1. Implementation.

Phase 2 may be implemented when the customer usage exceeds 90 million gallons per day for three (3) consecutive days; or reservoir operational storage levels do not refill above the 24-hour average of 70 percent from day to day for three (3) consecutive days; or the wellfield supply is reduced to less than 70 percent of operational volume. (See Appendix “A”, 1)

When the Director of Public Works and Utilities deems it appropriate, using best professional judgment and considering weather conditions, weather forecasts, river flow conditions and water system operations, recommendations may be made to the Mayor for acceleration to an appropriate Phase in the Plan.

2. Public and City Involvement.

All measures implemented in Phase 1 shall continue with the following additions:

- a. Lincoln Water System customers shall be asked to VOLUNTARILY limit outdoor water use to a designated day schedule.
- b. Those properties having street addresses ending with an even number (0, 2, 4, 6, 8) may water on Wednesday, Friday, and Sunday; addresses ending with odd numbers (1, 3, 5, 7, 9) may water on Tuesday, Thursday, and Saturday.
- c. Large apartment complexes, townhome associations, homeowners associations, and businesses, with more than one street address at the same location shall declare a designated day outdoor watering schedule for each street address and shall notify the Lincoln Water System of the declaration before beginning to water under Phase 2.
- d. The washing of automobiles, trucks, trailers, boats, and other types of mobile equipment shall be permitted on the designated day schedule unless the “health and safety” (See Appendix “A”, 14) of the public is contingent upon frequent cleaning (i.e., garbage trucks, vehicles transporting food perishables, sludge trucks, and emergency vehicles.)

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3. Termination.

Phase 2 shall remain in effect until conditions indicate a more restrictive Phase is necessary, or until rescinded by the Mayor.

PHASE 3 - MANDATORY DESIGNATED DAY SCHEDULE FOR OUTDOOR WATERING

1. Implementation.

Phase 3 may be implemented when the customer usage exceeds 90 million gallons per day for five (5) consecutive days; or reservoir operational storage levels do not refill above 50 percent from day to day for five (5) consecutive days; or the wellfield supply is reduced to less than 60 percent of the operational volume. (See Appendix "A", 1)

When the Director of Public Works and Utilities deems it appropriate, using best professional judgment and considering weather conditions, weather forecasts, river flow conditions and water system operations, recommendations may be made to the Mayor for acceleration to an appropriate Phase in the Plan.

2. Public and City Involvement.

All measures implemented in previous Phases shall continue, with the following additions:

- a. Customers shall be REQUIRED to follow the designated day schedule according to address number.
- b. Sod, newly seeded lawns less than 30 days old for cool season grasses (See Appendix "A", 8); and less than 45 days old for warm season grasses (See Appendix "A", 9), including seeding for erosion control on disturbed sites, and mulched plantings may be watered every day, provided the property owner has obtained a no fee permit for watering from the Department of Building and Safety (See Appendix "A", 7). Sod, newly seeded lawns over 30 days old for cool season grasses; and over 45 days old for warm season grasses (including seeding for erosion control on disturbed sites), and mulched plantings shall be watered only on the designated day schedule. Receipts and proof of purchase/installation date shall be required in obtaining a permit for watering from the Department of Building and Safety. Placement of permit shall be visibly posted in a window facing the street.

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- c. Customers that have established lawns that install an underground irrigation system may obtain a 10 day no fee permit for watering from the Department of Building and Safety (See Appendix “A”, 19).
- d. Commercial nurseries are exempt from Phase 3 watering restrictions but are requested to curtail all non-essential outdoor water use. Trees that have been transplanted within the last three years may require approximately 10 gallons of water every seven to ten days (See Appendix “A”, 12).
- e. Customers that have water cooled air-conditioners or private wells shall obtain a no fee permit from the Department of Building and Safety (See Appendix “A”, 13). Placement of permit shall be visibly posted in a window facing the street.
- f. The washing of automobiles, trucks, trailers, boats and other types of mobile equipment is limited to the designated day schedule, unless the “health and safety” (See Appendix “A”, 14) of the public is contingent upon frequent cleaning (i.e., garbage trucks, vehicles transporting food perishables, sludge trucks, and emergency vehicles.)
- g. Commercial car washing facilities and commercial power washer businesses shall not be prohibited from operating, however, power washer businesses must comply with the designated day schedule.
- h. Replenishment of water used for the operation of public and private ornamental fountains and waterfalls greater than 20,000 gallon capacity is PROHIBITED.
- i. The watering of golf course tees and Sunken Gardens shall be permitted only on the designated day schedule (See Appendix “A”, 10). The watering of golf course fairways shall be permitted on Monday only, using the “dormancy hydration plan”(see Appendix “A”, 2). The watering of golf course greens; USGA-styled sand-based athletic fields (See Appendix “A”, 11); and ballfield infields (See Appendix “A”, 6) is permitted every day.
- j. The washing of sidewalks, driveways and other paved areas is PROHIBITED unless necessary to prevent imminent danger to “health or safety” (See Appendix “A”, 14).
- k. The refilling or adding of water to private and/or public swimming pools and/or wading pools is PROHIBITED except between the hours of midnight to 6:00 a.m. daily. The draining of private swimming pools is PROHIBITED except for an end of season closure or emergency maintenance. The provision shall apply to all consumptive recreational water uses unless specifically exempted. An exemption is allowed for wading pools for small children or utilized to keep pets cool.

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- l. The decision to fill city swimming pools shall be approved by the Mayor. If approved, filling will be completed as quickly as reasonably and safely possible. If it becomes necessary to drain off some or all of the water in a city swimming pool, the decision to do so shall be made by the Aquatics and Mechanical Maintenance Staff, and/or the Director of Parks and Recreation. The decision to refill the pool shall be made by the Mayor, and refilling will be completed as quickly as reasonably and safely possible.
 - m. Private contractor jet flushing of sanitary sewers shall be limited to usage of 6,000 gallons of potable water per day; storm sewer flushing, or street sweeping of existing streets, or street sweeping of newly constructed streets shall be limited to usage of 6,000 gallons of potable water per day each. (See Appendix “A”, 15 - Rules for City operations)
 - n. Upon written request, the Director of Public Works and Utilities may allow Monday watering in lieu of weekend watering. This option provides Monday watering only where weekend watering would be a hardship and when the site is unattended on weekends.
 - o. The hydrant flushing maintenance program will be suspended. Hydrant flushing, to enhance water quality, fire flow tests, and large meter tests will be done only as deemed necessary by the Director of Public Works and Utilities.
 3. Termination.

Phase 3 shall remain in effect until conditions indicate a more restrictive Phase is necessary, or until rescinded by the Mayor.

PHASE 4 - WATER RESTRICTION WARNING

1. Implementation.

Phase 4 may be implemented when the customer usage exceeds 90 million gallons per day for seven (7) consecutive days; or reservoir operational storage levels do not refill above the 24-hour average of 25 percent from day to day for five (5) consecutive days; or wellfield supply is reduced to less than 50 percent of the operational level. (See Appendix “A”, 1)

When the Director of Public Works and Utilities deems it appropriate, using best professional judgment and considering weather conditions, weather forecasts, river flow conditions and water system operations, recommendations may be made to the Mayor for acceleration to an appropriate Phase in the Plan.

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2. Public and City Involvement.

All measures implemented in previous Phases shall continue to be implemented, with the following additions:

- a. A VOLUNTARY 25 percent curtailment of all residential indoor usage shall be implemented.
- b. Laying new sod, seed, or mulched plantings shall be as outlined in Appendix “A”, 17. An exception may be allowed at the discretion of the Director of Public Works and Utilities on disturbed sites where seeding is needed to prevent soil erosion and a permit is obtained based on receipt and proof of purchase/installation.
- c. The washing of automobiles, trucks, trailers, boats and other types of mobile equipment shall be limited to commercial car washing facilities, unless the “health and safety” (See Appendix “A”, 14) of the public is contingent upon frequent cleaning (i.e., garbage trucks, vehicles transporting food perishables, sludge trucks, and emergency vehicles.)
- d. Use of water from fire hydrants shall be limited to fire fighting and water quality control activities.
- e. Private contractor jet flushing of sanitary sewers shall be limited to usage of 3,000 gallons of potable water per day; storm sewer flushing, or street sweeping of existing streets, or street sweeping of newly constructed streets shall be limited to usage of 3,000 gallons of potable water per day each. (See Appendix “A”, 18 - Rules for City operations)
- f. Operation of public ornamental fountains shall be discontinued.
- g. Lincoln Water System shall notify major residential/industrial/commercial/institutional water users that if the situation should continue to deteriorate, additional voluntary and/or mandatory curtailments and possible shutdowns may become necessary.
- h. Appropriate contacts on the “Emergency Water Resources List” shall be put on ALERT status. They shall be informed of the City’s possible need for outside sources of water augmentation in the near future.
- i. Other measures may be implemented at the discretion of the Mayor.
- j. Upon written request, the Director of Public Works and Utilities may allow Monday watering in lieu of weekend watering. This option provides Monday

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watering only where weekend watering would be a hardship and when the site is unattended on weekends.

3. Termination.

Phase 4 shall remain in effect until conditions indicate a more restrictive Phase is necessary, or until rescinded by the Mayor.

B. WATER SUPPLY RESTRICTION PLAN

LEVEL 1 - WATER USE RESTRICTION ALERT

1. Implementation.

Level 1 may be implemented when system usage exceeds the ability to supply or reservoirs do not refill above 25 percent reservoir operational storage level overnight; or a major transmission/distribution link is disrupted; or a system failure occurs which causes a loss of capability to provide adequate services.

This Level shall be implemented in emergency situations to sustain life and maintain the health of the community.

2. Public and City Involvement.

All measures implemented in previous phases shall continue with the following additions:

- a. THE USE OF WATER SHALL BE LIMITED TO INDOOR USAGE ONLY UNLESS SPECIFICALLY OUTLINED IN PHASE 4.
- b. REQUEST A VOLUNTARY 25 percent curtailment of residential/industrial/commercial/institutional usage.
- c. A MANDATORY shutdown of all commercial car washes shall be implemented.
- d. Washing of vehicles such as garbage trucks, vehicles transporting food and perishables, emergency, and sludge vehicles shall be permitted only between the hours of midnight and 6 a.m.
- e. Eating and drinking establishments shall serve water to customers upon request only.

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- f. Retailers, suppliers, and manufacturers on the “Emergency Water Resources List” will be contacted to provide increased supplies of bottled water, non-alcoholic beverages, and shall use disposable place settings for supply through normal market outlets.
 - g. Other measures may be implemented at the discretion of the Mayor.
3. Termination
- Level 1 may remain in effect until conditions indicate a more restrictive Level is necessary, or until rescinded by the Mayor.

LEVEL 2 - WATER USE RESTRICTION EMERGENCY

1. Implementation.

Level 2 shall be implemented when circumstances exist that cause the system supply to fall below the average winter day usage (i.e., approximately 30 million gallons per day). All actions will focus on preserving “lifeline” (See Appendix “A”, 16) indoor water use and fire reserves in the reservoirs.

2. Public and City Involvement.

All measures implemented in previous Phases/Levels shall continue with the following additions:

- a. A MANDATORY 25 percent curtailment of all industrial/commercial/institutional usage shall be implemented (See Appendix “A”, 5).
- b. A MANDATORY 50 percent curtailment of all residential indoor usage shall be implemented. The Citizen’s Information Center, working with Lincoln/Lancaster County Health Department shall provide citizens with specific information via local and area media for meeting mandatory water curtailment actions (See Appendix “A”, 5).
- c. Golf course watering which utilizes Lincoln Water System sources may be PROHIBITED.
- d. All air-conditioning utilizing Lincoln Water System sources are PROHIBITED.

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- e. All restaurants and institutional users shall begin using non-washable disposable table settings. All bars and liquor serving establishments shall use single service glasses to reduce water usage.
 - f. If water used for drinking purposes is disrupted, Public Works and Utilities may arrange for the trucking of drinking water from surrounding areas using sources on the “Emergency Water Resource List.” This emergency drinking water may be distributed to the public from city park locations to be determined as appropriate to the situation.
 - g. Nebraska National Guard and United States Army Resources will be contacted and assistance sought to provide support should either of the above actions prove inadequate or the situation continues to deteriorate.
 - h. Other measures may be implemented at the discretion of the Mayor.
3. Termination.

Level 2 may remain in effect until conditions indicate a more restrictive Level is necessary, or until rescinded by the Mayor.

LEVEL 3 - WATER USE RESTRICTION CRISIS

1. Implementation.

Level 3 shall be implemented when system usage has depleted lifeline indoor water use and fire reserves in the reservoirs, and/or water quality in the distribution system poses a threat to the health and safety of users.

2. Public and City Involvement.

All measures implemented in previous Phases/Levels shall continue, with the following additions:

- a. A MANDATORY 50 percent curtailment in all industrial/commercial/institutional usage shall be implemented (See Appendix “A”, 5).
- b. The Mayor, utilizing emergency powers, shall implement specific MANDATORY industrial/commercial/institutional/residential shutdowns if necessary based on recommendations from Lincoln Water System.
- c. The resources of the Nebraska National Guard and the United States Army will be requested to provide support to the community in the area of water purification,

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storage and transport, based on exhaustion of local/regional resources and the continued threat to human life and health.

d. Other measures may be implemented at the discretion of the Mayor.

3. Termination.

Level 3 shall remain in effect until rescinded by the Mayor.

ENFORCEMENT

Enforcement of these guidelines shall be at the discretion of the Mayor and in accordance with Sections 17.26.010, 17.26.030, and 1.24.010 of the Lincoln Municipal Code and provisions of the Nebraska Civil Defense Act. (See Appendix "A", 4.)

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APPENDIX “A”

1. Reservoir operational storage is the level of water between overflow elevation and the fire level elevation. Reservoir operational level is the top one-third of above-ground reservoir storage.
2. Dormancy hydration plan - A term used to describe all plant material in a state of minimal metabolic activity with temporary cessation of growth. For most popular turf types this is 1/4" to 3/4" of water per week depending on weather conditions. Watering needs for ornamental shrubs vary from ½ gallon per week to 5 gallons per week. Both should be applied in or at two different periods during a week timeframe.
3. The operational volume is the top 25 percent of the aquifer.
4. Enforcement Guidelines

LMC Section 17.26.010 - Emergency Restrictions

The mayor of the city is authorized and empowered to declare the existence of any emergency relating to the available water supply of the Lincoln Water System and to impose restrictions on the use of water during such emergency. Whenever the mayor shall determine that the remaining available water supply is critically low, from whatever cause, the mayor may declare the existence of an emergency and impose reasonable restrictions on the use of such water. It shall be unlawful for any person to fail to observe any such restriction so imposed by the mayor, provided public announcement of such restriction has been made.

LMC Section 17.26.030 - Turning Off Water For Failure To Observe Restrictions

The Lincoln Water System may turn off the water supplied to the premises of any person who, after having been notified of the imposition of such emergency restrictions on the use of water, disregards such restrictions, and such supply of water shall not again be turned on until the cost for turning the water off and turning the water on has been paid to the Lincoln Water System.

LMC Section 1.24.010 - Penalty for Violations

Any person upon whom a duty is placed by the provisions of this code who shall fail, neglect, or refuse to perform such duty or who shall violate any of the provision of this code for which a penalty is not otherwise specifically provided shall be deemed guilty of a misdemeanor, and upon conviction thereof shall be punished by imprisonment in the county jail for a period not to exceed six months, or by a fine of not to exceed \$500.00, recoverable with costs, or both. Each day that a violation of this code continues shall constitute a separate and distinct offense and shall be punishable as such.

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5. Mandatory Curtailment of Water Use - Residential and Industrial/Commercial
A 25 percent or 50 percent curtailment of water use can be determined by reviewing your billing cycle usage. This can be obtained from your water bills; contacting the Public Works & Utilities Water Business Office; or looking up your usage on the City of Lincoln website.
6. City of Lincoln ballfields constructed with agrilime will require minimal daily watering to provide adequate hydration of material for player safety. It is necessary to water the clay infield portions of the playing fields daily in order to keep them soft, safe, and playable at any level of baseball. This is especially true in the case of professional baseball. In times of water restrictions, Haymarket Park will limit the use of water on the clay portions of the playing fields to baseball game days.
7. A signed receipt with statement from supplier that customer has purchased/installed enough seed for seeding the entire lawn at address, and square footage of seeded area.
8. Cool season grasses include Kentucky Bluegrass, Fescue, etc.
Consult nursery for additional classifications.
9. Warm season grasses include Buffalo Grass, Brome, Native Prairie, etc.
Consult nursery for additional classifications.
10. Use golf course clubhouse address to determine designated day schedule. Sunken Gardens shall use the designated odd schedule.
11. Syringing, defined as a brief (2-3 minute) sprinkling of the turf with water for the purpose of cooling the turf, is a practice routinely used at Haymarket Park. Four moisture sensors have been installed to indicate the need for water in the outfield. In periods of extreme heat, Haymarket Park may need to syringe the turf during the heat of the afternoon. Syringing can reduce the overall stress levels of the turf plant, and therefore can reduce the overall water requirement for the plants. Syringing will be allowed at Haymarket Park and at all other USGA-styled sand-based athletic fields or golf course greens in Lincoln.
12. The watering of newly planted street, park and/or golf course trees on City property shall be permitted on a designated day schedule. Non-potable water from wastewater treatment shall be used by City personnel if available for such purposes.
13. The Department of Building and Safety will:
 - a. Require the customer to verify they have a water-cooled air conditioner.
 - b. Require the customer to verify they have a private well.

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14. The Lincoln/Lancaster County Health Department shall be the agency that determines matters of health and safety.
15. City jet flushing of sanitary sewers shall be limited to usage of 24,000 gallons of potable water per day; storm sewer flushing, or street sweeping of existing streets, or street sweeping of newly constructed streets shall be limited to usage of 6,000 gallons of potable water per day each.
16. Lifeline indoor water use shall be defined as water necessary for drinking, cooking, and sanitary facilities, as well as, water determined by the Lincoln/Lancaster County Health Department necessary to maintain sanitary health conditions.
17. Note: Clarification of Subsection in Phase 4, Item 2b is as follows:
 - Seeding of cool season grass, with permit, may be allowed between August 15 and September 30.
 - Sodding, with permit, may be allowed from September 15 until ground freezes solid.
 - Daily watering, if necessary, will be permitted for 45 days.
18. City jet flushing of sanitary sewers shall be limited to usage of 12,000 gallons of potable water per day; storm sewer flushing, or street sweeping of existing streets, or street sweeping of newly constructed streets shall be limited to usage of 3,000 gallons of potable water per day each.
19. A signed, dated receipt from irrigation contractor verifying customer has purchased/installed a lawn irrigation system.